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## RECORD OF ORAL HEARING

U. S. PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

*Ex parte* KLAUS SCHULTES, MICHAEL WICKER, PETER KEMPF,  
WERNER HOSS, KLAUS ALBRECHT, URSULA GOLCHERT and  
STEFAN NAUJ

Appeal No. 2010-005237  
Application No. 10/575929  
Technology Center 1700

Oral Hearing Held: March 10, 2011

Before BRADLEY R. GARRIS, PETER F. KRATZ and  
MARK NAGUMO, *Administrative Patent Judges*.

#### APPEARANCES:

ON BEHALF OF THE APPELLANT:

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1 The above-entitled matter came on for hearing on Thursday, March 10,  
2 2011 commencing at 1:55 p.m., at the U.S. Patent and Trademark Office,  
3 600 Dulany Street, Alexandria, Virginia, before Victoria L. Wilson, Notary  
4 Public.

5 P R O C E E D I N G S

6 - - - - -

7 THE USHER: Calendar number 31. Appeal number 2010-5237. Ms. Wilbur.

8 JUDGE GARRIS: Thank you.

9 MS. WILBUR: Thank you.

10 JUDGE GARRIS: Good afternoon, Ms. Wilbur.

11 MS. WILBUR: Good afternoon.

12 JUDGE GARRIS: Would you happen to have a business card you could give  
13 to our reporter?

14 MS. WILBUR: Yes, I do.

15 JUDGE GARRIS: That would be helpful. Thank you.

16 Ms. Wilbur, as you know, you have about 20 minutes to present your case.

17 Please begin when you are ready.

18 MS. WILBUR: Okay. May it please the Board, I am here to discuss  
19 application 10/575929, Appeal Number 2010-5237. Due to the time  
20 constraint, as you have mentioned, I'm only going to focus my remarks on  
21 independent claim 24 and the rejections thereof and I'll comment on any  
22 dependent claims as becomes necessary during the discussion or questions.  
23 So, the first rejection I would like to talk about is the obviousness double  
24 patenting rejection which does include independent claim 24. First,  
25 Applicant -- Appellants would like to submit that the claimed subject matter  
26 between the two applications is, in fact, different. Component A of the  
27 invention --

1 JUDGE KRATZ: Can I ask you a quick question before you begin your  
2 arguments?

3 MS. WILBUR: Sure.

4 JUDGE KRATZ: There was -- the other application involved was -- had a  
5 request for continued application filed and there was an amendment after final  
6 that would be entered once that was filed.

7 MS. WILBUR: There was a request for what? I'm sorry. I couldn't hear you.

8 JUDGE KRATZ: The application over which the obviousness double  
9 patenting rejection is involved with, the claims in that application were subject  
10 to amendment subsequent to the Briefing in this Appeal.

11 MS. WILBUR: Okay.

12 JUDGE KRATZ: And are you aware of that, one; and, two, does it make any  
13 difference in the arguments, the change in those claims?

14 MS. WILBUR: I was not aware of the amendment. I am filling in sort of last  
15 minute on this case, so I am not aware of the most recent amendment on the  
16 '946 application.

17 However, I could imagine, though, that the difference most likely still applies  
18 because I can't imagine that the claims were amended to be even closer related  
19 to the claimed invention only because I know the -- there was one attorney  
20 working on both cases. So that would be my guess. I have not seen those  
21 claims though.

22 The -- so I will address, I guess, then, the obviousness double patenting  
23 rejection as, you know, was put forth by the Examiner in the last office action  
24 and has been addressed in the Appeal Brief and the Examiner's answer.

25 JUDGE NAGUMO: What is the difference, if we can jump to that?

1 MS. WILBUR: Okay. Sure. Yes. So component A of claim 24, which is the  
2 polymer mixture -- the polymer matrix, consists essentially of one or more of  
3 four things -- part one, two or three or four. Now, the first thing is that the  
4 '946 application is completely silent on three and four, which are the  
5 methacrylimide copolymers. Okay. So, now we have to move to part one and  
6 two.

7 Well, with respect to part one and two, those components are defined by their  
8 vicat softening point. Now, the Examiner has correlated those to any one of  
9 polymers A, C and D in the '946 application; however, those are only  
10 characterized by their solution viscosities of 25 degrees C. And since Vicat  
11 softening point and solution viscosities are not the same properties and they  
12 are actually not related, then we would say that the '946 application also does  
13 not disclose one or two, the methacrylate polymers that are defined by their  
14 vicat softening point.

15 Furthermore, the last three properties that are recited in claim 24 are nowhere  
16 near found in the claims of the '946 application.

17 JUDGE GARRIS: Hold on just a moment. I may have missed this.

18 MS. WILBUR: Sure.

19 JUDGE GARRIS: Did you say that the co-pending application claims do not  
20 include a polymer matrix with any one of these three items that are recited in  
21 claim 24?

22 MS. WILBUR: The one, two, three and four of component A, is that what we  
23 are talking about?

24 JUDGE GARRIS: Yes. Yes, I am.

1 MS. WILBUR: Correct. And the reason for that is that the '946 application  
2 claims do not recite methacrylimide co-polymers.

3 JUDGE GARRIS: Okay.

4 MS. WILBUR: That would be three and four.

5 JUDGE GARRIS: Okay. I got you.

6 MS. WILBUR: Okay.

7 JUDGE NAGUMO: Are you saying that Vicat softening points and the  
8 properties that are the solution viscosities are mutually exclusive --

9 MS. WILBUR: Well, they are -- they are --

10 JUDGE NAGUMO: -- or that they just --

11 MS. WILBUR: -- they are not the same and they are not performed in the  
12 same way. The -- those values are not identified in the same way.

13 And I would bring your attention to the Reply Brief where a description of the  
14 difference between those two values is provided starting at the bottom of page  
15 six where it -- it explains that the softening point of a given polymer is  
16 determined by the application of thermal energy to a specimen. At a certain  
17 temperature, the polymer sample being heated and softened in this value is  
18 observed.

19 On the other hand, the solution viscosity of a polymer is -- is determined by  
20 dissolving a polymer sample in a specified solvent, for instance, chloroform,  
21 and then measuring the viscosity of the solution at a specific temperature.

22 JUDGE NAGUMO: Yes. Well, they both relate in some way to molecular  
23 weight, for example. Now, they are not necessarily the same --

24 MS. WILBUR: Right.

1 JUDGE NAGUMO: -- as the polymers certainly aren't -- don't cover identical  
2 molecular weight ranges.

3 MS. WILBUR: Uh-huh.

4 JUDGE NAGUMO: My question would be how large is the overlap. If it's  
5 incidental, your case is very, very strong. If there is a large area -- if there is a  
6 large class of -- of methacrylate co-polymers, for example, that have  
7 appropriate solution viscosities and appropriate vicat softening points, even  
8 though they are not identical, your case becomes relatively weak. So how  
9 large is the overlap would be one way to ask.

10 BY MS. WILBUR: I couldn't put a figure on that, like a percentage figure, but  
11 I would say -- and I would repeat that the method -- the method for  
12 determining the two values is so different that we don't -- that the Appellants  
13 don't believe that one skilled in the art could reach a conclusion that the values  
14 expected for one of those set of properties based on a certain technique could  
15 be obtained on the same sample for the other technique, the Vicat softening  
16 point or the solution viscosity being the two techniques.

17 JUDGE GARRIS: You're saying the claim is different with respect to the  
18 matrix in part A and also the characteristics recited at the end of the claim?

19 MS. WILBUR: Yes. So at the very end of claim 24, which is not specific  
20 only to the matrix but to the combination of components A, B and C -- the  
21 matrix, the impact modifier and the plastic particles -- so our -- the resulting  
22 polymer mixture, which is what claim 24 is, results in three properties -- a  
23 roughness value, a glass, and a Vicat softening point in and of itself which is  
24 different than the Vicat softening points of the individual component A.

1 And what I was pointing out is that the '946 application does not claim these,  
2 recite these or indicate what the -- those would be for our claimed polymer  
3 mixture.

4 And just as a further note, the Examiner has included the Lichtenstein  
5 reference as a secondary component to this ODP rejection and we wish to note  
6 that this is merely for the idea of including light scattering particles which are  
7 disclosed in Lichtenstein which the Examiner has cited to in light of claimed  
8 component C from 1 to 15 weight percent of plastic particles.

9 So, again, Appellants submit that the claimed subject matter is, in fact,  
10 different, that the Vicat softening point and solution viscosities cannot be  
11 equated as the Examiner has done and Appellants respectfully request reversal  
12 of that rejection.

13 JUDGE GARRIS: Any questions?

14 JUDGE KRATZ: No questions.

15 JUDGE GARRIS: Any questions?

16 Why don't you go on to your prior art rejection.

17 MS. WILBUR: Sure. So the first prior art rejection that includes claim 24 is  
18 over Kress and Lichtenstein for obviousness. First thing I would like to point  
19 out is that Kress requires a component A which is a matrix thermoplastic  
20 polycarbonate material. Appellants' claims do not contain such a  
21 polycarbonate matrix material.

22 JUDGE NAGUMO: What is it about "consisting essentially of" that  
23 necessarily excludes polycarbonate?

24 MS. WILBUR: Well, "consisting essentially of," as you know, means that the  
25 only things recited -- the only things that can be included are those that are

1 recited in the claim and those that do not materially affect the basic and novel  
2 properties of the component, the component being the polymer matrix.  
3 And Appellants submit that one skilled in the art would readily know that a  
4 polycarbonate that are known to have extremely high Vicat softening points  
5 would, in fact, materially affect the basic and novel properties of the claimed  
6 invention.

7 JUDGE NAGUMO: Do we have that in the record?

8 MS. WILBUR: Yes. Reply Brief --

9 JUDGE KRATZ: Was Reply Brief entered?

10 MS. WILBUR: The first Reply Brief was not, however, the second was.

11 JUDGE KRATZ: What was the date on that one?

12 MS. WILBUR: The date of the second Reply Brief, it was filed on April 16th,  
13 2010.

14 JUDGE KRATZ: Okay.

15 MS. WILBUR: And then we received a subsequent notice from the office that  
16 it was entered and considered and application forwarded to the Board.

17 Back to your question -- Reply Brief -- it really starts at the very first  
18 comments at the bottom of page two but then more specifically on page three.

19 JUDGE NAGUMO: Well, if -- the reason I ask here is if PCs are known to  
20 have high Vicat softening points, then at the bottom of claim 24, there is a  
21 limitation of Vicat softening point has to be at least 90 degrees C. So if I have  
22 a component that itself has a very high softening point and if I make the jump  
23 that, well, whatever it's in is likely going to have a high softening point, that  
24 doesn't seem to necessarily hurt here. I mean I might have a very, very high  
25 softening point but that's not excluded by the claims.

1 So I don't see that that excludes -- there is no limitation on the matrix that  
2 necessarily excludes that. I've got a requirement that the PMMA, for example,  
3 has to have a certain Vicat but, again, that's minimum Vicat softening point.  
4 MS. WILBUR: Right, the polymer matrix consists essentially of one or two or  
5 three or four and the one or two are defined by their Vicat softening point.  
6 I -- I think the answer to your question there is that by -- by the fact that the  
7 polycarbonate material, thermoplastic polycarbonate material would have such  
8 an elevated Vicat softening point, and as the claims, you know, themselves  
9 indicate, the Vicat softening point of not only the components within the  
10 polymer matrix component A but the resulting polymer mixture as a whole at  
11 the bottom of the claim, you know, those are -- at least the Vicat softening  
12 point is one of the properties that's -- would -- basically, would be a material  
13 property to the claimed invention.  
14 JUDGE NAGUMO: But they are not going in the right way for your  
15 argument. If PCs had a very low Vicat softening point, I could -- I could buy  
16 off on that, I think, right away because, well, I'm going to throw in something  
17 that was really soft and, so, we have got some real problems here. I'm not sure  
18 we have this problem with PC. Maybe we should move on, having --  
19 MS. WILBUR: I think we can move on to component B of claim 24, if you  
20 wish.  
21 Also, actually, perhaps before we move on to part B of claim 24 or part B of  
22 the Kress reference, I would just point out that dependent claim 47 is a slightly  
23 narrower version of claim 24 and that not only is the polymer matrix A limited  
24 to the "consisting essentially of" or that the polymer mixture as a whole is

1 limited to "consisting essentially of," not just component A like claim 24, and I  
2 don't know if that addresses at all your comment but I wanted to point that out.

3 JUDGE NAGUMO: I think we should move on.

4 MS. WILBUR: Okay. So moving on to the Kress reference, another  
5 difference between the present invention and the Kress reference is that Kress  
6 also includes a component B, which is a rubbery material that is formed by  
7 graft polymerizing a mixture onto a rubber. No such graph copolymer system  
8 exists in the present invention.

9 Also, component B of Kress, the rubbery material graph polymerized onto  
10 another rubber is not the impact modifier of the present claims, which is  
11 recited as an impact modifier based on cross link polymethacrylates and which  
12 is not covalently bonded to the polymatrix A.

13 It appears in the office action that the Examiner may have equated those two.  
14 We disagree, obviously.

15 JUDGE NAGUMO: So your position is, then, that Kress does not disclose  
16 cross link polyacrylate -- polymethacrylate impact modifier?

17 MS. WILBUR: Appellants' position is that the -- the Examiner's equation of  
18 Kress' component B to Appellants' claimed impact modifier is incorrect.

19 JUDGE NAGUMO: Well, is it because there is not a cross link PMMA?

20 MS. WILBUR: That is also not covalently bonded to the polymer matrix A? I  
21 believe not. The -- and the Lichtenstein reference also does not, so that would  
22 not satisfy that prong either. The Lichtenstein reference again only comes in  
23 for component C, which is the plastic particles.

1 So, in light of the Appellants' belief that the "consisting essentially of" for  
2 component A would exclude the polycarbonate of Kress, Kress' component B  
3 not reading on the claimed component B --

4 JUDGE KRATZ: Is there any -- is there any impact of that graft copolymer of  
5 the other reference the Examiner is relying on impacting the properties that  
6 you are claiming at all? Would that change it, if you were using that as the  
7 impact modifier?

8 MS. WILBUR: If you were to instead use the component B of Kress?

9 JUDGE KRATZ: Yes.

10 MS. WILBUR: I couldn't comment. I -- I don't know.

11 So, for those reasons, Applicants do submit that the polymer matrix lists  
12 limited by the "consisting essentially of" language, as well as the lack of Kress  
13 and Lichtenstein's disclosure of claimed component B, that the obviousness  
14 rejection over Kress and Lichtenstein should be reversed.

15 Now moving on to the obviousness rejection over three different references,  
16 however Lichtenstein is the third, Albrecht, Suetterlin and Lichtenstein is the  
17 combination and it also is put forth over claim 24, the first I'll just put out there  
18 that it appears that the office is using Albrecht for claimed component A, the  
19 Suetterlin reference for the notions of claimed component B and again  
20 Lichtenstein for claimed component C. Lichtenstein will always be  
21 component C.

22 And right at the outset, Appellants submit that Albrecht and Suetterlin are non-  
23 combinable. The methods taught by Albrecht and Suetterlin are quite  
24 different. Albrecht teaches that the presence of co-monomer units of maleic

- 1 anhydride and styrenic monomer in a methylmethacrylate -- methacrylate
- 2 polymer to improve stress cracking.
- 3 On the other hand, Suetterlin requires the use of a three-tiered core shell
- 4 methacrylate-based polymer as an additive to the methacrylate polymer as the
- 5 means for improving stress-resisting characteristics of the copolymer. So two
- 6 very different techniques for perhaps similar polymers in the sense that they
- 7 are both methacrylate based.
- 8 However, Appellants submit that one skilled in the art would not be motivated
- 9 by Albrecht to completely change the method taught therein to a different
- 10 methacrylate polymer and modify its properties by including the core shell
- 11 polymer as an additive as taught by Suetterlin mostly because those -- those
- 12 properties which Suetterlin is trying to improve are already improved by the
- 13 method of Albrecht, so why would one skilled in the art make that
- 14 modification.

15 JUDGE NAGUMO: Are Appellants arguing that there wouldn't have been an  
16 expectation that adding impact modifying particles as taught by Suetterlin  
17 would -- would have that effect in Albrecht's compositions? It doesn't seem  
18 necessarily like it wouldn't work. As you say, they are already doing it another  
19 way but --

20 MS. WILBUR: Right, they are already doing it. Right.

21 JUDGE NAGUMO: -- you know, one way or another, yeah, why wouldn't  
22 you -- you want to improve the impact strength --

23 MS. WILBUR: Right.

24 JUDGE NAGUMO: -- so you would use whatever is available unless there  
25 were some really good reason not to. I mean that's always out there.

1 MS. WILBUR: I understand, yeah.

2 JUDGE KRATZ: What were you saying --

3 JUDGE NAGUMO: I don't see that it's necessarily --

4 MS. WILBUR: I guess I would say that, you know, Albrecht is one -- one

5 type of method for improving the stress cracking and Suetterlin is a completely

6 different method of improving stress cracking and, therefore, if -- you know, I

7 would then ask, well, where is the motivation to start mixing and matching

8 when you have one method which is doing the desired goal of relieving stress

9 cracking and so is the other method?

10 So if Suetterlin was combined with Albrecht, would there be an advantage? I

11 don't know. Albrecht is already improving that particular property so why

12 would one even -- why would one skilled in the art consider looking to

13 Suetterlin for, what, further improving the property? That I couldn't comment

14 on.

15 But I would say that one skilled in the art wouldn't look to a reference that's

16 doing the same thing that the primary reference has already done.

17 JUDGE KRATZ: Now, that primary reference to Albrecht you are saying

18 because they were using those -- making -- they were making a polymer with

19 those methac -- methylmethacrylate, the styrene and the maleic anhydride, that

20 was the problem that you said they were already improved with those three

21 ingredients.

22 MS. WILBUR: Right. When you read the beginning of Albrecht, you see

23 that, you know, their goal is, in fact, to improve the stress cracking and they

24 have done so --

25 JUDGE KRATZ: Right.

- 1 MS. WILBUR: -- by their particular method which includes those
- 2 components, yes.
- 3 JUDGE KRATZ: If the Examiner was using that reference just for the product
- 4 of that method, though, okay, wouldn't that correspond to what you have in
- 5 your dependent claim 28 for your first former matrix ingredient of the -- of the
- 6 mixture that you are claiming? Because you are not claiming a method, you
- 7 are claiming a mixture.
- 8 MS. WILBUR: Right. Claim 28 where polymer matrix A is defined as
- 9 consisting essentially of methyl methacrylate, styrene and maleic anhydride is
- 10 the notion of the combination of those three components in Albrecht.
- 11 JUDGE KRATZ: In other words, your argument that those three would have
- 12 militated against the combination with the -- with the impact modifier
- 13 somehow, at least in the prior art is what you are saying, there is no reason to
- 14 improve it with the impact modifier of the secondary reference.
- 15 MS. WILBUR: Right, with the particular modifiers here.
- 16 JUDGE KRATZ: Right, the particular modifier, the secondary reference.
- 17 MS. WILBUR: Right, which is very, very unique, a three-tiered core shell
- 18 polymer. Yes, that's what I am saying.
- 19 JUDGE KRATZ: Okay.
- 20 JUDGE GARRIS: You really don't have a great deal of time left, though I -- I
- 21 think we have asked a lot of questions so I'm giving you some extra minutes.
- 22 However, you should go to the last rejection.
- 23 MS. WILBUR: Yes. That one should be really quick because the only
- 24 difference between Albrecht, Suetterlin and Lichtenstein in the last rejection

- 1 that applies to claim 24 is sort of the swap for Albrecht for the Rhein
- 2 reference.
- 3 So, the difference being the Rhein reference, I'll just talk about Rhein quickly.
- 4 Rhein discloses a continuous process of producing a thermoplastic molding
- 5 compound by polymerizing a mixture of methylmethacrylate, optionally lower
- 6 alkyd acrylates in the presence of a mercaptan change transfer agent and a
- 7 radical initiator.
- 8 That is pretty much the extent of the disclosure of Rhein. Rhein provides
- 9 absolutely no teaching or suggestion of the claimed mixture. There is no
- 10 teaching of mixing any one of the four specific types of the copolymer
- 11 mixtures one, two, three or four as recited in claim 24, never mind with an
- 12 impact modifier or plastic particles.
- 13 So, Appellants really believe that Rhein is completely off the mark.
- 14 JUDGE GARRIS: Judge Kratz, any questions?
- 15 JUDGE KRATZ: No further questions.
- 16 JUDGE GARRIS: Judge Nagumo?
- 17 JUDGE NAGUMO: No, thank you.
- 18 JUDGE GARRIS: Thank you very much.
- 19 MS. WILBUR: Thanks.
- 20 JUDGE GARRIS: Hope we can settle this case.
- 21 We ask our reporter did you have any questions?
- 22 COURT REPORTER: No, thank you.
- 23 (Whereupon, the proceedings at 2:19 p.m. were concluded.)
- 24
- 25